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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/773,054

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Hossein Sedarat

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5481

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7590

04/01/2008

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EXAMINER

PUENTE, EVA YI ZHENG

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

04/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/773,054	Applicant(s) SEDARAT, HOSSEIN	
	Examiner EVA Y. PUENTE	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-44 is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12, 14-16, 23-25, 27-29 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 4-9, 13, 17-22, 26, 30-33 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/21/07 have been fully considered but they are not persuasive. Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected.

Applicant's argument – Prior art Sedarat detects impulse noise, not phase noise as claimed.

Examiner's response – As indicated in previous office action, Applicant is directed to paragraph [0052] in Sedarat. Sedarat clearly stated that the present invention can be applied for detection and compensation by determining a gain factor associated with the phase noise. In other words, the gain factor (518 in Fig. 5) is calculated in association with the impulse noise detector (512), which also can be a phase noise detector. Therefore, Sedarat reasonably meet the claimed limitations.

Remark: (1) Applicant amended claims 14-26 to overcome objection to the specification. However, upon reviewing page 17, [0043, L9-10], applicant must delete the phrase: "electrical, optical...(e.g. carrier waves, infrared signals, digital signals, etc.)" in order to avoid 35 U.S.C. §101 rejection. Appropriate correction is required. (2) Double patenting rejection has been withdrawn due to Terminal Disclaimer filed.

Specification

2. The disclosure is objected to because of the following informalities:

On page 17, [0043, L9-10], recitation: “electrical, optical.....(e.g. carrier waves, infrared signals, digital signals, etc.)” is direct to carrier wave signals, which is non-statutory subject matter. Please delete such phrase from specification in order to avoid 35 U.S.C. §101 rejection.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 10-12, 14-16, 23-25, 27-29, and 34-36 are rejected under 35 U.S.C. 102(e) as being unpatentable by Sedarat et al (US 2005/0111561).

a) Regarding to claims 1, 14, and 27, Sedarat et al disclose a method comprising:
measuring phase noise in a signal, the phase noise due to a sampling-time phase mismatch between a transmitter device and a receiver device (512 in Fig. 5; [0052]);

determining a Gaussian noise power level in the signal (514 in Fig. 5);

calculating a gain factor associated with the phase noise (518 in Fig. 5); and

applying the gain factor to the Gaussian noise power level to calculate an equivalent noise power (520 in Fig. 5).

b) Regarding to claims 2, 15, and 28, Sedarat et al disclose determining a signal-to-noise ratio (522 in Fig. 5) based on a signal power of the signal (516 in Fig. 5) and the calculated equivalent noise power (520 in Fig. 5).

c) Regarding to claims 3, 16, and 29, Sedarat et al disclose wherein the signal is a multicarrier signal including a plurality of sub-carriers (DMT and ADSL [0002]).

d) Regarding to claims 10, 23, and 34, Sedarat et al disclose determining bit-loading based on the signal-to-noise ratio (524 in Fig. 5).

e) Regarding to claims 11, 24 and 35, Sedarat et al disclose determining a bit-error rate based on the equivalent noise power (520 in Fig. 5).

f) Regarding to claims 12, 25, and 36, Sedarat et al disclose determining a first gain factor and a first equivalent noise power for a first sub-carrier; and determining a second gain factor and a second equivalent noise power for a second sub-carrier (617 in Fig. 6).

Allowable Subject Matter

5. Claims 4-9, 13, 17-22, 26, 30-33, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 38-44 are allowed.

7. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggest in a ADSL system comprising: a total noise power measurement module to measure a total noise power level of a received signal, wherein a Gaussian noise power level of the signal is represented as the difference between the phase noise power level and the total noise power level; and a gain factor module to calculate a gain factor associated with the timing phase error and to apply the gain factor to the Gaussian noise power level in the signal to calculate an equivalent noise power.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Puente whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Puente
/E. Y. P./
Examiner, Art Unit 2611

March 18, 2008

/CHIEH M FAN/
Supervisory Patent Examiner, Art Unit 2611